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#3

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/898,860

DATE: 12/04/2001

TIME: 10:43:21

Input Set : N:\Crf3\RULE60\09898860.raw

Output Set: N:\CRF3\12042001\I898860.raw

SEQUENCE LISTING

ENTERED

3 (1) GENERAL INFORMATION:
 5 (i) APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,
 6 STEVEN A.
 8 (ii) TITLE OF INVENTION: MELANOMA ANTIGENS AND
 9 THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
 10 METHODS
 12 (iii) NUMBER OF SEQUENCES: 126
 14 (iv) CORRESPONDENCE ADDRESS:
 15 (A) ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
 16 (B) STREET: 345 PARK AVENUE
 17 (C) CITY: NEW YORK
 18 (D) STATE: NEW YORK
 19 (E) COUNTRY: USA
 20 (F) ZIP: 10154
 22 (v) COMPUTER READABLE FORM:
 23 (A) MEDIUM TYPE: FLOPPY DISK
 24 (B) COMPUTER: IBM PC COMPATIBLE
 25 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 26 (D) SOFTWARE: ASCII
 28 (vi) CURRENT APPLICATION DATA:
 C--> 29 (A) APPLICATION NUMBER: US/09/898,860
 C--> 30 (B) FILING DATE: 03-Jul-2001
 32 (vii) PRIOR APPLICATION DATA:
 33 (A) APPLICATION NUMBER: US/09/267,439
 34 (B) FILING DATE:
 36 (A) APPLICATION NUMBER: US/08/417,174
 37 (B) FILING DATE: 05-APR-1995
 39 (A) APPLICATION NUMBER: US/08/231,565
 40 (B) FILING DATE: 22-APR-1994
 42 (viii) ATTORNEY/AGENT INFORMATION:
 43 (A) NAME: CAROL M. GRUPPI
 44 (B) REGISTRATION NUMBER: 37,341
 45 (C) REFERENCE/DOCKET NUMBER: 2026-4124US1
 47 (ix) TELECOMMUNICATION INFORMATION:
 48 (A) TELEPHONE: (212) 758-4800
 49 (B) TELEFAX: (212) 751-6849
 50 (C) TELEX: 421792
 52 (2) INFORMATION FOR SEQ ID NO: 1:
 54 (i) SEQUENCE CHARACTERISTICS:
 55 (A) LENGTH: 1559
 56 (B) TYPE: NUCLEOTIDE
 57 (C) STRANDEDNESS: DOUBLE
 58 (D) TOPOLOGY: UNKNOWN
 65 (ii) MOLECULE TYPE: cDNA
 67 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
 69 AGCAGACAGA GGACTCTCAT TAAGGAAGGT GTCCTGTGCC

40

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71	CTGACCCTAC	AAGATGCCAA	GAGAAGATGC	TCACTTCATC	80
73	TATGGTTACC	CCAAGAAGGG	GCACGGCCAC	TCTTACACCA	120
75	CGGCTGAAGA	GGCCGCTGGG	ATCGGCATCC	TGACAGTGAT	160
77	CCTGGGAGTC	TTACTGCTCA	TCGGCTGTTG	GTATTGTAGA	200
79	AGACGAAATG	GATACAGAGC	CTTGATGGAT	AAAAGTCTTC	240
81	ATGTTGGCAC	TCAATGTGCC	TTAACAAGAA	GATGCCACACA	280
83	AGAAGGGTTT	GATCATCGGG	ACAGCAAAGT	GTCTCTTCAA	320
85	GAGAAAAAAT	GTGAACCTGT	GGTTCCCAAT	GCTCCACCTG	360
87	CTTATGAGAA	ACTCTCTGCA	GAACAGTCAC	CACCACCTTA	400
89	TTCACCTTAA	GAGCCAGCGA	GACACCTGAG	ACATGCTGAA	440
91	ATTATTTCTC	TCACACTTTT	GCTTGAATTT	AATACAGACA	480
93	TCTAATGTTT	TCCTTTGGAA	TGGTGTAGGA	AAAATGCAAG	520
95	CCATCTCTAA	TAATAAGTCA	GTGTTAAAAT	TTTAGTAGGT	560
97	CCGCTAGCAG	TACTAATCAT	GTGAGGAAAT	GATGAGAAAT	600
99	ATTAAATTGG	GAAAACTCCA	TCAATAAATG	TTGCAATGCA	640
101	TGATACTATC	TGTGCCAGAG	GTAATGTTAG	TAAATCCATG	680
103	GTGTTATTTT	CTGAGAGACA	GAATTCAAGT	GGGTATTCTG	720
105	GGGCCATCCA	ATTTCTCTTT	ACTTGAAATT	TGGCTAATAA	760
107	CAAACCTAGT	AGGTTTTCGA	ACCTTGACCG	ACATGAACTG	800
109	TACACAGAAT	TGTTCCAGTA	CTATGGAGTG	CTCACAAAGG	840
111	ATACTTTTAC	AGGTTAAGAC	AAAGGGTTGA	CTGGCCTATT	880
113	TATCTGATCA	AGAACATGTC	AGCAATGTCT	CTTTGTGCTC	920
115	TAAAATTCTA	TTATACTACA	ATAATATATT	GTAAAGATCC	960
117	TATAGCTCTT	TTTTTTTGAG	ATGGAGTTTC	GCTTTTGTTG	1000
124	CCCAGGCTGG	AGTGCAATGG	CGCGATCTTG	GCTCACCATA	1040
126	ACCTCCGCCT	CCCAGGTTCA	AGCAATTCTC	CTGCCCTTAGC	1080
128	CTCCTGAGTA	GCTGGGATTA	CAGGCGTGCG	CCACTATGCC	1120
130	TGACTAATTT	TGTAGTTTTA	GTAGAGACGG	GGTTTCTCCA	1160
132	TGTTGGTCAG	GCTGGTCTCA	AACTCCTGAC	CTCAGGTGAT	1200
134	CTGCCCCGCT	CAGCCTCCCA	AAGTGCTGGA	ATTACAGGCG	1240
136	TGAGCCACCA	CGCCTGGCTG	GATCCTATAT	CTTAGGTAAG	1280
138	ACATATAACG	CAGTCTAATT	ACATTTCACT	TCAAGGCTCA	1320
140	ATGCTATTCT	AACTAATGAC	AAGTATTTTC	TACTAAACCA	1360
142	GAAATTGGTA	GAAGGATTTA	AATAAGTAAA	AGCTACTATG	1400
144	TACTGCCTTA	GTGCTGATGC	CTGTGTACTG	CCTTAAATGT	1440
146	ACCTATGGCA	ATTTAGCTCT	CTTGGGTTCC	CAAATCCCTC	1480
148	TCACAAGAAT	GTGCAGAAGA	AATCATAAAG	GATCAGAGAT	1520
150	TCTGAAAAAA	AAAAAAAAAA	AAAAAAAAAA	AAAAAAAAAA	1559

153 (2) INFORMATION FOR SEQ ID NO: 2:

155 (i) SEQUENCE CHARACTERISTICS:

156 (A) LENGTH: 118

157 (B) TYPE: amino acid

158 (C) STRANDEDNESS: Unknown

159 (D) TOPOLOGY: Unknown

161 (ii) MOLECULE TYPE: Protein

163 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

165 Met Pro Arg Glu Asp Ala His Phe Ile Tyr Gly Tyr Pro Lys

166 1 5 10

167 Lys Gly His Gly His Ser Tyr Thr Thr Ala Glu Glu Ala Ala

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```

168 15          20          25
169 Gly Ile Gly Ile Leu Thr Val Ile Leu Gly Val Leu Leu Leu
170      30          35          40
171 Ile Gly Cys Trp Tyr Cys Arg Arg Asn Gly Tyr Arg Ala
172      45          50          55
173 Leu Met Asp Lys Ser Leu His Val Gly Thr Gln Cys Ala Leu
174      60          65          70
175 Thr Arg Arg Cys Pro Gln Glu Gly Phe Asp His Arg Asp Ser
176      75          80
183 Lys Val Ser Leu Gln Glu Lys Asn Cys Glu Pro Val Val Pro
184 85          90          95
185 Asn Ala Pro Pro Ala Tyr Glu Lys Leu Ser Ala Glu Gln Ser
186 100          105          110
187 Pro Pro Pro Tyr Ser Pro
188 115

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191 (2) INFORMATION FOR SEQ ID NO: 3:

193 (i) SEQUENCE CHARACTERISTICS:

194 (A) LENGTH: 9

195 (B) TYPE: amino acid

196 (C) STRANDEDNESS: Unknown

197 (D) TOPOLOGY: Unknown

199 (ii) MOLECULE TYPE: Peptide

201 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

204 Thr Thr Ala Glu Ala Ala Gly Ile

205 1 5

208 (2) INFORMATION FOR SEQ ID NO: 4:

210 (i) SEQUENCE CHARACTERISTICS:

211 (A) LENGTH: 9

212 (B) TYPE: amino acid

213 (C) STRANDEDNESS: Unknown

214 (D) TOPOLOGY: Unknown

216 (ii) MOLECULE TYPE: Peptide

218 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

221 Ala Ala Gly Ile Gly Ile Leu Thr Val

222 1 5

225 (2) INFORMATION FOR SEQ ID NO: 5:

227 (i) SEQUENCE CHARACTERISTICS:

228 (A) LENGTH: 9

229 (B) TYPE: amino acid

230 (C) STRANDEDNESS: Unknown

231 (D) TOPOLOGY: Unknown

233 (ii) MOLECULE TYPE: Peptide

235 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

242 Gly Ile Gly Ile Leu Thr Val Ile Leu

243 1 5

246 (2) INFORMATION FOR SEQ ID NO: 6:

248 (i) SEQUENCE CHARACTERISTICS:

249 (A) LENGTH: 9

250 (B) TYPE: amino acid

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251 (C) STRANDEDNESS: Unknown
252 (D) TOPOLOGY: Unknown
254 (ii) MOLECULE TYPE: Peptide
256 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
259 Gly Ile Leu Thr Val Ile Leu Gly Val
260 1 5
263 (2) INFORMATION FOR SEQ ID NO: 7:
265 (i) SEQUENCE CHARACTERISTICS:
266 (A) LENGTH: 9
267 (B) TYPE: amino acid
268 (C) STRANDEDNESS: Unknown
269 (D) TOPOLOGY: Unknown
271 (ii) MOLECULE TYPE: Peptide
273 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
276 Ile Leu Thr Val Ile Leu Gly Val Leu
277 1 5
280 (2) INFORMATION FOR SEQ ID NO: 8:
282 (i) SEQUENCE CHARACTERISTICS:
283 (A) LENGTH: 9
284 (B) TYPE: amino acid
285 (C) STRANDEDNESS: Unknown
286 (D) TOPOLOGY: Unknown
288 (ii) MOLECULE TYPE: Peptide
290 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
292 Leu Thr Val Ile Leu Gly Val Leu Leu
293 1 5
301 (2) INFORMATION FOR SEQ ID NO: 9:
303 (i) SEQUENCE CHARACTERISTICS:
304 (A) LENGTH: 9
305 (B) TYPE: amino acid
306 (C) STRANDEDNESS: Unknown
307 (D) TOPOLOGY: Unknown
309 (ii) MOLECULE TYPE: Peptide
311 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
313 Thr Val Ile Leu Gly Val Leu Leu Leu
314 1 5
317 (2) INFORMATION FOR SEQ ID NO: 10:
319 (i) SEQUENCE CHARACTERISTICS:
320 (A) LENGTH: 9
321 (B) TYPE: amino acid
322 (C) STRANDEDNESS: Unknown
323 (D) TOPOLOGY: Unknown
325 (ii) MOLECULE TYPE: Peptide
327 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
330 Val Ile Leu Gly Val Leu Leu Leu Ile
331 1 5
334 (2) INFORMATION FOR SEQ ID NO: 11:
336 (i) SEQUENCE CHARACTERISTICS:
337 (A) LENGTH: 9

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338         (B) TYPE: amino acid
339         (C) STRANDEDNESS: Unknown
340         (D) TOPOLOGY: Unknown
342     (ii) MOLECULE TYPE: Peptide
344     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
347 Ala Leu Met Asp Lys Ser Leu His Val
348   1           5
351 (2) INFORMATION FOR SEQ ID NO: 12:
353     (i) SEQUENCE CHARACTERISTICS:
360         (A) LENGTH: 9
361         (B) TYPE: amino acid
362         (C) STRANDEDNESS: Unknown
363         (D) TOPOLOGY: Unknown
365     (ii) MOLECULE TYPE: Peptide
367     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
370 Ser Leu His Val Gly Thr Gln Cys Ala
371   1           5
374 (2) INFORMATION FOR SEQ ID NO: 13:
376     (i) SEQUENCE CHARACTERISTICS:
377         (A) LENGTH: 9
378         (B) TYPE: amino acid
379         (C) STRANDEDNESS: Unknown
380         (D) TOPOLOGY: Unknown
382     (ii) MOLECULE TYPE: Peptide
384     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
387 Pro Val Val Pro Asn Ala Pro Pro Ala
388   1           5
391 (2) INFORMATION FOR SEQ ID NO: 14:
393     (i) SEQUENCE CHARACTERISTICS:
394         (A) LENGTH: 9
395         (B) TYPE: amino acid
396         (C) STRANDEDNESS: Unknown
397         (D) TOPOLOGY: Unknown
398     (ii) MOLECULE TYPE: Peptide
400     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
403 Asn Ala Pro Pro Ala Tyr Glu Lys Leu
404   1           5
406 (2) INFORMATION FOR SEQ ID NO: 15:
408     (i) SEQUENCE CHARACTERISTICS:
409         (A) LENGTH: 10
410         (B) TYPE: amino acid
411         (C) STRANDEDNESS: Unknown
412         (D) TOPOLOGY: Unknown
419     (ii) MOLECULE TYPE: Peptide
421     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
424 Tyr Thr Thr Ala Glu Glu Ala Ala Gly Ile
425   1           5           10
428 (2) INFORMATION FOR SEQ ID NO: 16:
430     (i) SEQUENCE CHARACTERISTICS:

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/898,860

DATE: 12/04/2001

TIME: 10:43:22

Input Set : N:\Crf3\RULE60\09898860.raw

Output Set: N:\CRF3\12042001\I898860.raw

L:29 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:30 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:2773 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:122
L:2796 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:123
L:2813 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:124
L:2830 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:125